

**CSE4027 – Data Analytics - Lab Sheet : 2****Academic year:** 2020-2021**Branch/ Class:** B.Tech CSE**Semester:** Fall**Date:** 10/20/2021**Faculty Name :** Dr Karthikeyan Saminathan**School:** SCOPE**Student name:** M.Taran**Reg. no.:** 19BCE7346**ARRAYS**

```
> #-----
> # arrays
> #-----
>
> #Arrays
> vector1<-c(5,9,3)
> vector2<-c(10,11,12,13,14,15)
>
> result<-array(c(vector1,vector2),dim = c(3,3,2))
> print(result)
, , 1
      [,1] [,2] [,3]
[1,]    5   10   13
[2,]    9   11   14
[3,]    3   12   15
, , 2
      [,1] [,2] [,3]
[1,]    5   10   13
[2,]    9   11   14
[3,]    3   12   15
```

```
>
> vector1<-c(5,9,3)
> vector2<-c(10,11,12,13,14,15)
>
> column.names <- c("COL1","COL2","COL3")
> row.names <- c("ROW1","ROW2","ROW3")
> matrix.names <- c("Matrix1","Matrix2")
>
> result <- array(c(vector1,vector2),dim = c(3,3,2),dimnames =
+               list(row.names,column.names,matrix.names))
>
> print(result)
, , Matrix1
      COL1 COL2 COL3
ROW1     5   10   13
ROW2     9   11   14
ROW3     3   12   15

, , Matrix2
      COL1 COL2 COL3
ROW1     5   10   13
ROW2     9   11   14
ROW3     3   12   15

>
> arr = array(1:18, dim=c(2,3,3))
> arr
, , 1
      [,1] [,2] [,3]
[1,]     1     3     5
[2,]     2     4     6

, , 2
      [,1] [,2] [,3]
[1,]     7     9    11
[2,]     8    10    12

, , 3
      [,1] [,2] [,3]
[1,]    13    15    17
[2,]    14    16    18

>
> dim(arr)
[1] 2 3 3
>
> arr[1,2,3]
[1] 15
>
> arr[,2,]
      [,1] [,2] [,3]
[1,]     3     9    15
[2,]     4    10    16
>
>
```

**VECTORS :**

```
> #-----
> #vectors
> #-----
>
>
> x <- c(0.5, 0.6) ## numeric
> x <- c(TRUE, FALSE) ## logical
> x <- c(T, F) ## logical
> x <- c("a", "b", "c") ## character
> x <- 9:29 ## integer
> x <- c(1+0i, 2+4i) ## complex
> #You can also use the vect88or() function to initialize vectors
> x <- vector("numeric", length = 10)
> #Integer vector
> x <- c(1,2,3,4,5,6)
> mean(x)
[1] 3.5
> mean(x, na.rm = TRUE)
[1] 3.5
> sum(x[c(3,5)]) #refers 3rd and 5th elements of x vector
[1] 8
>
> # Numeric vector, it has a float, 10.5
> num = c(1:10, 10.5)
> class(num)
[1] "numeric"
>
>
> # Character vector
> ltrs = letters[1:10]
> class(ltrs)
[1] "character"
>
>
> # Factor vector
> fac = as.factor(ltrs)
> class(fac)
[1] "factor"
>
>
```

```
> 1:10
[1] 1 2 3 4 5 6 7 8 9 10
> seq(from=1,to=7,by=0.5)
[1] 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0
>
> rep(5:4)
[1] 5 4
> rep(1:4,each=2)
[1] 1 1 2 2 3 3 4 4
> rep(-1:3, length.out=10)
[1] -1 0 1 2 3 -1 0 1 2 3
>
> 2^(0:10)
[1] 1 2 4 8 16 32 64 128 256 512 1024
> 1:3 + rep(seq(from=0,by=10,to=30), each=3)
[1] 1 2 3 11 12 13 21 22 23 31 32 33
>
```

**DATES:**

```
> #-----
> #Date
> #-----
> dates <- as.Date(c("2001-10-03","2021-11-20"))
> dates
[1] "2001-10-03" "2021-11-20"
>
> spentDays<- dates[1] - dates[2]
>
> Sys.Date()
[1] "2021-10-23"
>
> date()
[1] "Sat Oct 23 21:01:42 2021"
>
> today<-Sys.Date()
>
> format(today,format="%B %d %Y")
[1] "October 23 2021"
>
> #Character to DATE
> strDates<-c("01/05/2002","08/5/2003")
> dates<-as.Date(strDates,"%m/%d/%Y")
> dates
[1] "2002-01-05" "2003-08-05"
>
> #Date to Character
> dates
[1] "2002-01-05" "2003-08-05"
>
> strDates<-as.character(dates)
> strDates
[1] "2002-01-05" "2003-08-05"
> |
```